REMARKS/ARGUMENTS

I. Rejection of Claims Under 35 USC §102

The Office rejected claims 1-2, 4-7, 9-10, 13, 16-17, and 19 as being anticipated under 35 USC §102(b) by US4991521 to Green. The applicant respectfully disagrees.

A. Green Fails To Teach A First Section That Is Configured To Receive A Carbon-Contaminated Catalyst And To Receive An Oxygen-Containing Gas At A Flow Rate To Allow For Co-Current Catalyst Regeneration In The First Section

The Office argues that the optional oxygen added above the spent catalyst would exhibit co-current flow with the downward flowing catalyst. However, that interpretation is inconsistent with the Green design. Green requires that regeneration takes place in a reducing environment (C5/L10-22, and teaches that the additional oxygen is used as a combustant. Since a combustant (oxidizer) is the complete opposite of a reducer, Green's device would fail to operate to the extent that the added O_2 were to enter the reaction beds of the regeneration phase. Thus, there is every reason to believe that the added O_2 flows entirely upward and/or horizontally, but does not descend into the regeneration chambers, and certainly not into the "first section". Consequently, it should be apparent that Green's added O_2 fails "to allow for co-current catalyst regeneration in the first section", as currently claimed (emphasis added).

Even if a few molecules of the added O_2 enter the second section, there is absolutely no reason to contemplate that they would fall to the first section to provide co-current regeneration.

B. Green Fails To Teach Configuring The First Width, The First Volume, The Second Width, And The Second Volume As A Function Of The Flow Rate And The Residence Time

Green also fails to teach configuring the first width, the first volume, the second width, and the second volume such that "at the flow rate (a) the oxygen-containing gas has a residence time in the first section effective to selectively produce carbon monoxide from the carbon-contaminated catalyst, (b) the oxygen-containing gas has a residence time in the second section effective to produce carbon dioxide from the carbon monoxide." The Office argued that this limitation represents a process limitation in an apparatus claim, and is therefore given no patentable weight. However, the limitation defines the width and the volume of the first section

and the second section as a function of the flow rate and the necessary residence time. The Applicant fails to see how defining the width and a volume of an element in the claim is a process limitation.

II. Rejection of Claims Under 35 USC §103

The Office rejected **claims 3, 8, 11-12, 14, 18, and 20** as being obvious under 35 USC §103(a) over Green in view of US 4313848 to Scott. Once more, the applicant respectfully disagrees. Again, both Green and Scott fail to teach a first section configured to receive a carbon-contaminated catalyst and to receive an oxygen-containing gas at a flow rate to allow for co-current catalyst regeneration in the first section. Both Green and Scott also fail to teach configuring the shapes of the first and second sections to optimize the residence time of the gas with the catalyst as a function of the flow rate.

Request For Allowance

Claims 1-20 are pending in this application. The applicant requests allowance of all pending claims.

Respectfully submitted,
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